

10/801,692
DOCKET NO. K06-167789M/TBS

5

REMARKS

Claims 1-5, 7-12, 14, and 18-19 are all the claims presently pending in the application. Claims 1-5, 9, 12, and 14-15 are amended to more clearly define the invention, claims 6, 13, and 15-17 are canceled, and claims 18-19 are added. Claims 10-14 have been withdrawn from prosecution. Claim 1 is independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicants also note that, notwithstanding any claim amendments herein or later during prosecution, Applicants' intent is to encompass equivalents of all claim elements.

Entry of this §1.116 Amendment is proper. Since the Amendments above narrow the issues for appeal and since such features and their distinctions over the prior art of record were discussed earlier, such amendments do not raise a new issue requiring a further search and/or consideration by the Examiner. As such, entry of this Amendment is believed proper and Applicants earnestly solicit entry. No new matter has been added.

Applicants gratefully acknowledge the Examiner's indication that claim 3 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, Applicants respectfully submit that all of the claims are allowable.

Claims 1-2, 4, and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Okuda, et al. (U.S. Patent No. 4,090,796). Claims 1-2, 4-9, and 15-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Komeyama (U.S. Patent No. 4,893,962).

These rejections are respectfully traversed in the following discussion.

10/801,692
DOCKET NO. K06-167789M/TBS

6

I. THE RESTRICTION REQUIREMENT

The Office Action withdraws claims 10-14 from prosecution as failing “to read on the species originally claimed, a cross shaft joint comprising a bar shape balance plug and inserted in a radially directed screw hole.”

However, contrary to the Examiner’s allegation, the original claims were not limited to “a cross shaft joint comprising a bar shape balance plug and inserted in a radially directed screw hole.”

Rather, and in stark contrast to the Examiner’s mischaracterization of the scope of the original claims, original claim 1 recited:

“A cross shaft joint tiltably coupling two shaft members each other, the cross shaft joint comprising:

a cross shaft which includes four shaft portions and is arranged between the two shaft members;

outer ring cups rotatably provided to the four shaft portions, respectively, the outer ring cups being adapted to be coupled to corresponding shaft members; and

an attachment portion to which a balance weight for balancing the outer ring cups can be attached is formed on at least one of the outer ring cups.”

Therefore, original claim 1 is not limited to any species of the invention, rather, original independent claim 1 clearly does not require “a cross shaft joint comprising a bar shape balance plug and inserted in a radially directed screw hole.”

10/801,692
DOCKET NO. K06-167789M/TBS

7

Thus, the Examiner is very clearly incorrect to allege that original claim 1 made any election of any species at all. Rather, original claim 1 is clearly generic to all "species."

Further, the Examiner very clearly mis-characterizes original claim 1 by alleging that the "species" described at page 9, line 8 - page 10, line 1, were "previously unclaimed."

Original claim 1 (and current claim 1) very clearly reads upon the "species" that is described at page 9, line 8 - page 10, line 1, and which the Examiner alleges were "previously unclaimed."

Moreover, while the Examiner alleges that claims 1-9 and 15-17 and claims 10-14 are distinct from each other, the Examiner completely ignores one of the two requirements that the Examiner is required to meet before a restriction may be issued. In this instance, the Examiner has completely failed to allege that the search for claims 10-14 is a serious burden on the Examiner. Therefore, the Examiner has failed to present a prima facie case for a restriction requirement.

Moreover, M.P.E.P. § 817 sets forth very clear requirements that the Examiner must satisfy before being able to insist upon restriction. The Examiner is required to:

"(D) Provide reasons for insisting upon restriction

(1) Separate status in the art

(2) Different classification

(3) Same classification but recognition of divergent subject

matter

(4) Divergent fields of search, or

(5) Search required for one group not required for the other."

The Examiner has not even attempted to satisfy any of the above requirements.

10/801,692
DOCKET NO. K06-167789M/TBS

8

Applicants respectfully submit that the subject matter of all claims 1-5, 7-12, and 14-15 is sufficiently related that a thorough search for the subject matter of any one group of claims would necessarily encompass a search for the subject matter of the remaining claims. Thus, Applicants respectfully submit that the search and examination of the entire application could be performed without serious burden.

M.P.E.P. § 803 clearly states that "if the search and examination of the entire application can be made without serious burden, the Examiner must examine it on its merits, even though it includes claims to distinct or independent inventions" (emphasis added). Applicants respectfully submit that the Examiner has clearly failed to provide a prima facie showing of a serious burden by failing to provide "by appropriate explanation of separate classification, or separate status in the art, or a different field of search" (M.P.E.P. § 803).

Applicants respectfully submit that the policy requiring examination of an entire application even though the Examiner alleges that it may include distinct inventions, should be applied in the present application in order to avoid unnecessary delay and expense to Applicants and duplicative examination by the Patent Office. Applicants respectfully request reconsideration and withdrawal of the restriction requirement and to examine all claims in this application.

Further, Applicants note that all of the withdrawn claims 10-14 depend from "elected" independent claim 1. Therefore, when Examiner Binda determines that independent claim 1 is allowable, Applicants hereby respectfully request rejoinder and allowance of dependent claims 10-14.

Applicants respectfully request withdrawal of the restriction requirement and/or rejoinder of claims 10-12, and 14.

10/801,692
DOCKET NO. K06-167789M/TBS

9

II. THE CLAIMED INVENTION

An exemplary embodiment of the claimed invention, as defined by, for example, independent claim 1, is directed to a cross shaft joint tiltably coupling two shaft members to each other. The cross shaft joint includes a cross shaft which includes four shaft portions and is arranged between the two shaft members, outer ring cups rotatably provided to the four shaft portions, respectively, at least one of the outer ring cups with a key portion extending in a radial direction corresponding to a key groove in one of the two shaft members; and an attachment hole extending from an inner end of the key portion in a radial direction.

Conventional cross shaft joints have outer ring cups that are directly fixed to the corresponding shafts. These outer ring cups are generally forged. These outer ring cups are typically attached to the shaft members by the manufacturer and the assembly is balanced by attaching a balance piece to the shaft members using a balance machine.

When a customer exchanges parts within the cross shaft joint, the balance is lost and must again be obtained. However, customers do not generally have the balance machine that the manufacturer used to obtain a balance. Thus, the customers are not capable of balancing a cross shaft joint.

In stark contrast, the present invention provides a cross shaft joint in which an outer ring cups includes a key portion extending in a radial direction with an attachment hole extending from an inner end of the key portion in a radial direction. In this manner, the customer may balance the cross shaft joint without having a balance machine (page 7, line 24 - page 8, line 4). Further, a centrifugal force acts to press the balance weight into the attachment hole (page 8, lines 21 - 25).

10/801,692
DOCKET NO. K06-167789M/TBS

10

III. THE PRIOR ART REJECTIONS

A. The Okuda et al. reference

Regarding the rejection of claims 1-2, 4, and 15, the Examiner alleges that the Okuda et al. reference teaches the claimed invention. Applicants submit, however, that there are elements of the claimed invention which are neither taught nor suggested by the Okuda et al. reference.

None of the applied references teaches or suggests the features of the claimed invention including a key portion extending in a radial direction and defining an attachment hole extending from an inner end of the key portion in a radial direction. As explained above, these features are important for enabling a customer to balance the cross shaft joint without using a balance machine and for a centrifugal force to press a balance weight into the attachment hole.

The Okuda et al. reference discloses a device for fastening a needle case to a yoke in a universal joint. In particular, the Okuda et al. reference discloses a needle case 1 having a key 2 that is trapezoidally shaped and which fits into a keyway 4 in a yoke 3. The Okuda et al. reference further discloses a wedge 5 which fits between the key 2 and the keyway 4 to lock the key 2 into the keyway 4. The wedge 5 includes a threaded bore 7 in a head 6 so that the wedge 5 may be removed from the keyway 4.

The Examiner originally appeared to allege that the wedge 5 that is disclosed by the Okuda et al. reference corresponds to the claimed attachment portion in the September 1, 2005, Office Action "Fig. 3 shows the attachment portion includes attachment hole 7." Since only the wedge 5 "includes the attachment hole 7," then the Examiner clearly was alleging that the wedge 5 corresponded to the claimed attachment portion.

10/801,692
DOCKET NO. K06-167789M/TBS

11

The Examiner could not (and cannot now) reasonably allege that the key 2 disclosed by the Okuda et al. reference includes an attachment hole. Indeed, the key 2 clearly does not have any hole at all.

In the January 24, 2006, Office Action, the Examiner appears to allege that the key 2 that is disclosed by the Okuda et al. reference corresponds to the previously claimed attachment portion and that “the attachment portion includes (i.e. is provided with) an element 5 with an attachment hole.”

Applicants respectfully submit that the Examiner stretches the meaning of the term “includes” well beyond the ordinary and customary meaning of the term by those of ordinary skill in the art as very clearly required by M.P.E.P. § 2111.01.II.

While Applicants submit that meaning of the term “includes” would be clear to one of ordinary skill in the art to allow them to know the metes and bounds of the invention, taking the present Application as a whole, to speed prosecution claims Applicants have amended independent claims 1 and 15 to clarify that the key portion defines an attachment hole.

In other words, as is illustrated by Figure 1 of an exemplary embodiment in accordance with the present invention, the key portion 10 defines a hole 17.

In stark contrast, the key portion 2 that is disclosed by the Okuda et al. reference does not define any hole at all. Rather, the Okuda et al. reference only discloses a wedge 5 which includes a threaded bore 5.

Further, the threaded bore 7 in the wedge 5 of the Okuda et al. reference very clearly does not extend from an inner end of the key portion in a radial direction as recited by independent claims 1 and 15.

Rather, and in stark contrast, the threaded bore 7 in the wedge 5 of the Okuda et al.

10/801,692
DOCKET NO. K06-167789M/TBS

12

reference extends from an outer end of the wedge 5 in a radial direction. The threaded bore 7 is provided as a means to attach a bolt to the wedge 5 in order to remove the wedge by outwardly pulling the wedge. (Col. 2, lines 52-55). Thus, the threaded bore 7 is very clearly on the outer edge of the wedge 5 in order for a bolt to gain access to the wedge 5, to attach to the wedge 5, and to pull the wedge “outwardly.”

It would be impossible to install the wedge 5 to connect the needle case 1 to a yoke 3, let alone remove the wedge 5 to disconnect the needle case 1 from the yoke 3, if the wedge 5 were positioned such that the threaded bore 7 extended from an inner end in a radial direction as recited by independent claims 1 and 15.

Clearly, the Okuda et al. reference does not teach or suggest the features of the claimed invention including a key portion extending in a radial direction and defining an attachment hole extending from an inner end of the key portion in a radial direction.

Therefore, the Okuda et al. reference does not teach or suggest each and every element of the claimed invention and the Examiner is respectfully requested to withdraw this rejection of claims 1-2, 4, and 15

B. The Komeyama reference

Regarding the rejection of claims 1-2, 4-9, and 15-17, the Examiner alleges that the Komeyama reference teaches the claimed invention. Applicants submit, however, that there are elements of the claimed invention which are neither taught nor suggested by the Komeyama reference.

None of the applied references teaches or suggests the features of the claimed invention including a key portion extending in a radial direction and defining an attachment

10/801,692
DOCKET NO. K06-167789M/TBS

13

hole extending from an inner end of the key portion in a radial direction. As explained above, these features are important for enabling a customer to balance the cross shaft joint without using a balance machine and for a centrifugal force to press a balance weight into the attachment hole.

The Komeyama reference discloses a universal coupling with a cross 31 having four columns 32 and four bearing cases 36 (36r, 36l, 36a, and 36u). "Each of the bearing cases 36 (36r, 36l, 36a, and 36u) is rotatably installed on each of the above columns 32 via the needle rollers 33 with a bolt 37." (Col. 1, lines 15 - 18).

The Komeyama reference does not teach or suggest a key portion defining an attachment hole, let alone a key portion defining an attachment hole extending from an inner end of the key portion in a radial direction as recited by independent claims 1 and 15.

Rather, and in stark contrast, the threaded attachment hole into which the bolt 37 may be threaded is not in the key of the outer ring cup 36.

Further, the threaded attachment hole into which the bolt 37 may be threaded very clearly extends from an outer end of the outer ring cup in a radial direction. Therefore, any balance weight inserted into the threaded attachment hole for the bolt 37 of the Komeyama reference would be pulled out of the hole by centrifugal forces.

Clearly, the Komeyama reference does not teach or suggest the features of the claimed invention including a key portion extending in a radial direction and defining an attachment hole extending from an inner end of the key portion in a radial direction.

Therefore, the Komeyama reference does not teach or suggest each and every element of the claimed invention and the Examiner is respectfully requested to withdraw this rejection of claims 1-2, 4-9, and 15-17.

10/801,692
DOCKET NO. K06-167789M/TBS

14

IV. FORMAL MATTERS AND CONCLUSION


In view of the foregoing amendments and remarks, Applicants respectfully submit that claims 1-5, 7-12, 14, and 18-19, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

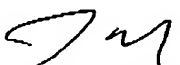
Date: 4/24/06


James E. Howard, Esq.
Registration No. 39,715

McGinn Intellectual Property Law Group, PLLC
8321 Old Courthouse Rd., Suite 200
Vienna, Virginia 22182
(703) 761-4100
Customer No. 21254

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that I am filing this Amendment After-Final Rejection Under 37 CFR §1.116 by facsimile with the United States Patent and Trademark Office to Examiner Gregory John Binda, Group Art Unit 3679 at fax number (571) 273-8300 this 24th day of April, 2006.


James E. Howard, Esq.
Registration No. 39,715